

I claim:

1. An apparatus adapted for cutting holes in a body vessel or hollow organ comprising:

a cutting blade,

5 a controlled force to advance the cutting blade, and
an anvil against which the cutting blade is advanced.

2. The apparatus of claim 1 wherein said controlled force on the cutting blade is generated by a spring with a pre-determined or selected spring constant.

10 3. The apparatus of claim 1 wherein said controlled force on the cutting blade is generated by a jackscrew with a knob for manual advance of said cutting blade.

4. The apparatus of claim 1 wherein said controlled force on the cutting blade is generated by a hydraulic cylinder
15 and hydraulic pressure supply.

5. The apparatus of claim 1 wherein said controlled force on the cutting blade is generated by a jackscrew and an electric motor to advance the blade.

6. The apparatus of claim 1 wherein said anvil is
20 fabricated from a polymeric material.

7. The apparatus of claim 1 wherein said cutting blade is rotated while being advanced toward said anvil.

8. The apparatus of claim 1 wherein said apparatus comprises a tapered tip or trocar to promote tissue penetration.

9. The apparatus of claim 8 wherein said tapered tip or
5 trocar includes axially disposed ridges to assist with tissue penetration.

10. The apparatus of claim 9 wherein said axially disposed ridges are sharp enough to cut tissue.

11. The apparatus of claim 9 wherein said axially disposed
10 ridges are blunted.

12. The apparatus of claim 8 wherein said anvil and said tapered tip or trocar are fabricated from the same piece of material.

13. A method for creating a hole in a hollow organ or
15 body vessel comprising the steps of:

creating an incision in said hollow organ or body vessel with a sharp object,

advancing a tapered trocar through said hollow organ or body vessel at the incision site until the trocar point
20 has completely penetrated said hollow organ or body vessel,

locating a cutting blade coaxially disposed about said trocar so that said cutting blade is positioned correctly,

advancing said cutting blade into said hollow organ or body vessel under controlled force until said cutting blade

fully rests against a blunt surface or anvil whose outside diameter is no less than the outer diameter of said cutting blade, and

removing said cutting blade and excised tissue from
5 the hollow organ or body vessel.

14. The method of claim 13, which includes the step of rotating the cutting blade while said cutting blade is advanced toward said anvil.

15. An apparatus adapted for cutting holes in a body
10 vessel or hollow organ comprising:

an anvil,

a cutting blade against which the anvil is advanced,

and

a controlled force to advance the anvil.

15 16. The apparatus of claim 15 wherein said controlled force is generated by manual withdrawal of the anvil against the cutting blade.

17. The apparatus of claim 15 wherein said anvil is spring-loaded in a position separated from said cutting
20 blade.

18. The apparatus of claim 15 wherein said cutting blade is rotated while said anvil is advanced toward said cutting blade.